

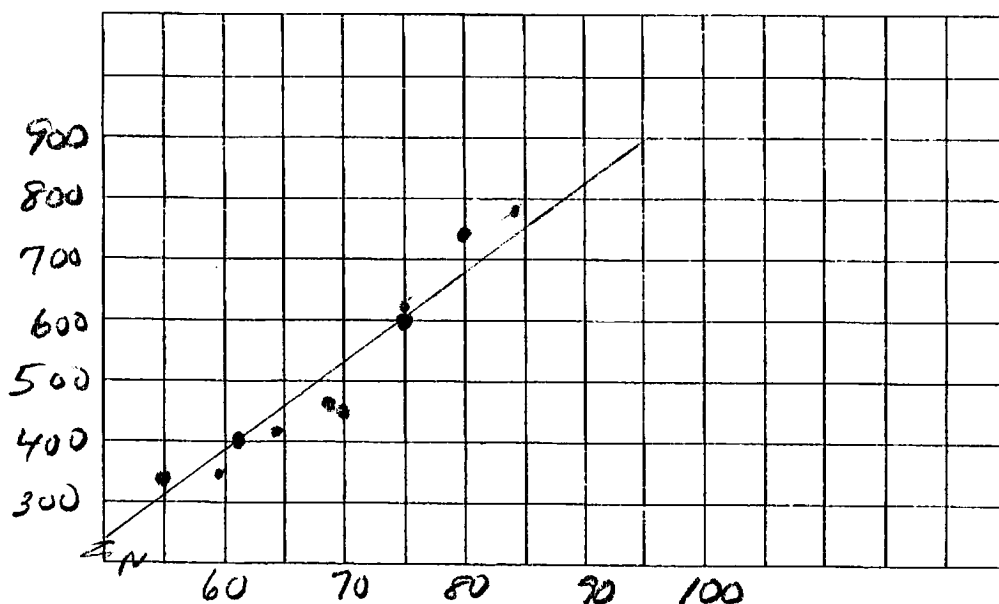
NAME Key
PERIOD _____ DATE _____

ANSWER SHEET FOR LINE OF BEST FIT

Problem #: Soft Drink Demand

Ordered pairs: (55, 340), (58, 335), (64, 410), (68, 460)
(70, 450), (75, 610), (80, 735), (84, 780)

Scatter plot:



Points used: (62, 400), (75, 600)

Slope: $m = \frac{400 - 600}{62 - 75} = \frac{-200}{-13} = 15.38$

Finding the equation: $y = mx + b$

$$\begin{aligned} 400 &= 15.38(62) + b \\ 400 &= 953.56 + b \\ -553.56 &= b \end{aligned}$$

$$y = 15.38x - 553.56$$

$$\text{GC } y = 16.42x - 621.82$$

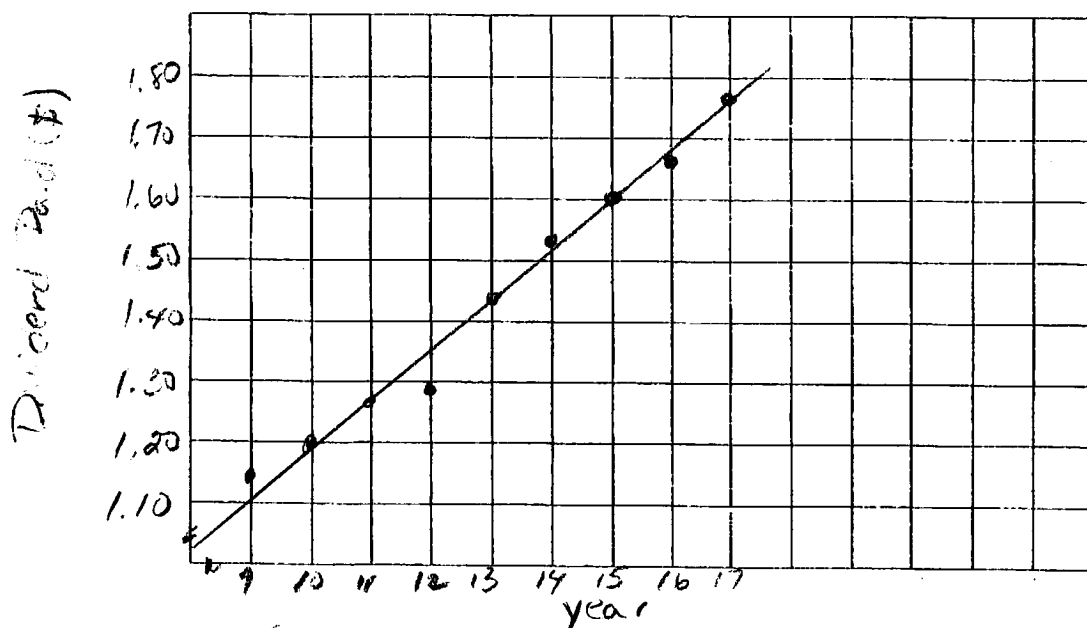
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Problem #: 1 (Dividend)

Ordered pairs: (9, 1.14), (10, 1.20), (11, 1.27), (12, 1.29)
(13, 1.43), (14, 1.53), (15, 1.60), (16, 1.66),
Scatter plot: (17, 1.76)



Points used: (10, 1.19), (15, 1.60)

Slope: $m = \frac{1.60 - 1.19}{15 - 10} = \frac{.41}{5} = .082$

Finding the equation:

$$\begin{aligned} y &= mx + b \\ 1.19 &= .082(10) + b \\ 1.19 &= .82 + b \\ .37 &= b \end{aligned}$$

$$\boxed{y = .082x + .37}$$

GC $y = .079x + .3998$

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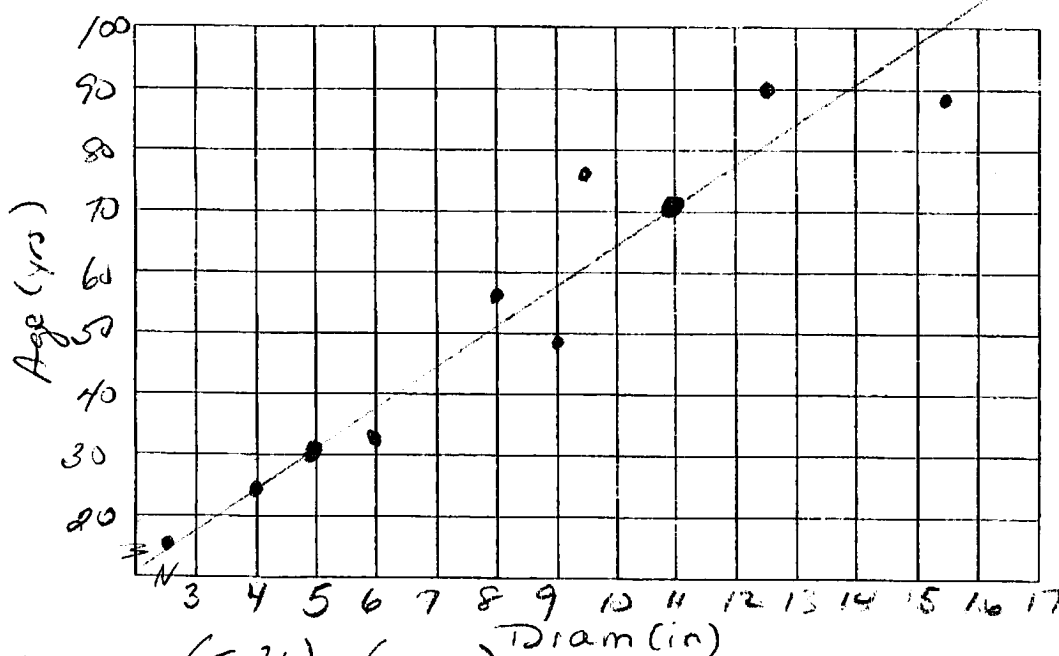
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Problem #: 2 (Tree Diameter)

Ordered pairs: (2.5, 15), (4, 24), (6, 32), (8, 56), (9, 49)
(9.5, 76), (12.5, 90), (15.5, 89)

Scatter plot:



Points used: (5, 31), (11, 71)

Slope: $m = \frac{31-71}{5-11} = \frac{40}{6} = 6.67$

Finding the equation:

$$y = mx + b$$

$$71 = 6.67(11) + b$$

$$71 = 73.37 + b$$

$$-2.37 = b$$

$$y = 6.67x - 2.37$$

$$GC \ y = 6.45x - .15$$

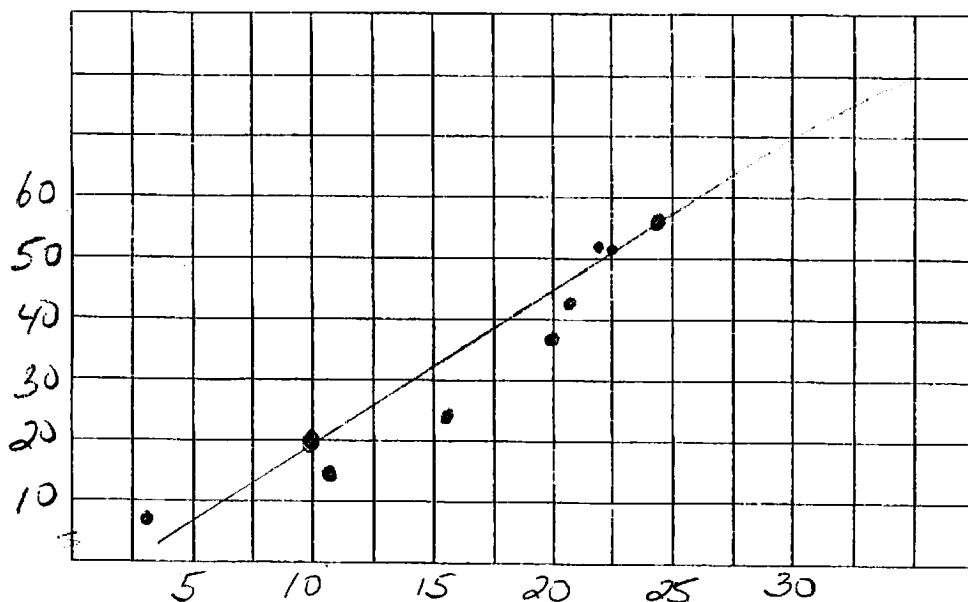
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Problem #: 3 (Home computers)

Ordered pairs: (7, 8.2), (12, 15), (16, 22.8), (20, 36.6),
(21, 42.1), (23, 51), (24, 55)

Scatter plot:



Points used: (10, 19), (22.5, 51)

Slope: $m = \frac{19-51}{10-22.5} = \frac{-32}{-12.5} = 2.56$

Finding the equation:

$$\begin{aligned}y &= mx + b \\19 &= 2.56(10) + b \\19 &= 25.6 + b \\-6.6 &= b\end{aligned}$$

$$\boxed{y = 2.56x - 6.6}$$

GC $y = 2.81x - 16.48$

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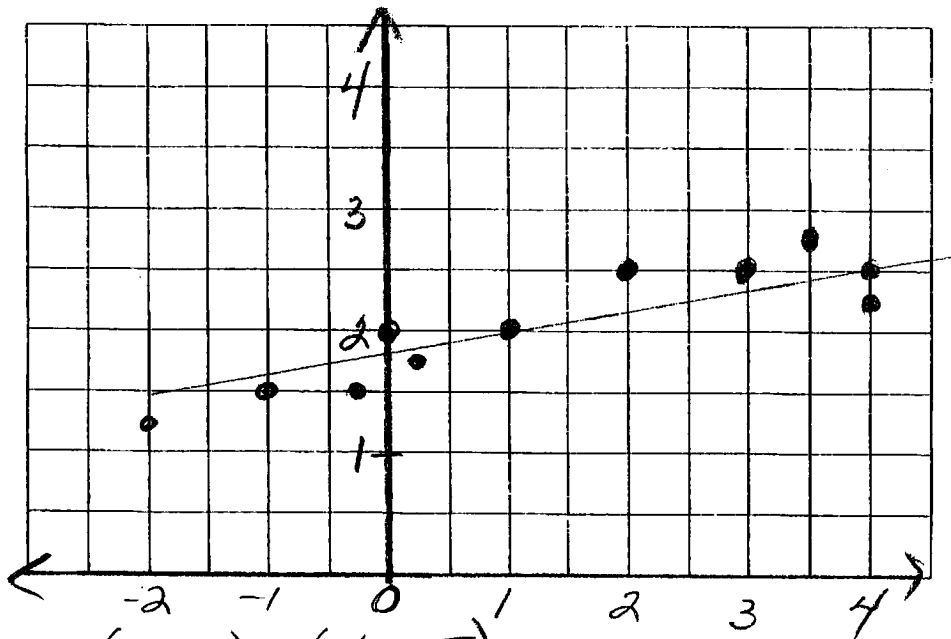
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Problem #: 4

Ordered pairs: $(-2, 1.25), (-1, 1.5), (-0.5, 1.5), (0, 2),$
 $(0.5, 1.75), (1, 2), (2, 2.5), (3, 2.5), (3.5, 2.75)$

Scatter plot: $(4, 3.25)$



Points used: $(1, 2), (4, 2.5)$

Slope: $m = \frac{2 - 2.5}{1 - 4} = \frac{-0.5}{-3} = .17$

Finding the equation:

$$\begin{aligned} y &= mx + b \\ 2 &= .17(1) + b \\ 2 &= .17 + b \\ 1.83 &= b \end{aligned}$$

$$\boxed{y = .17x + 1.83}$$

$$GC \quad y = .20x + 1.97$$

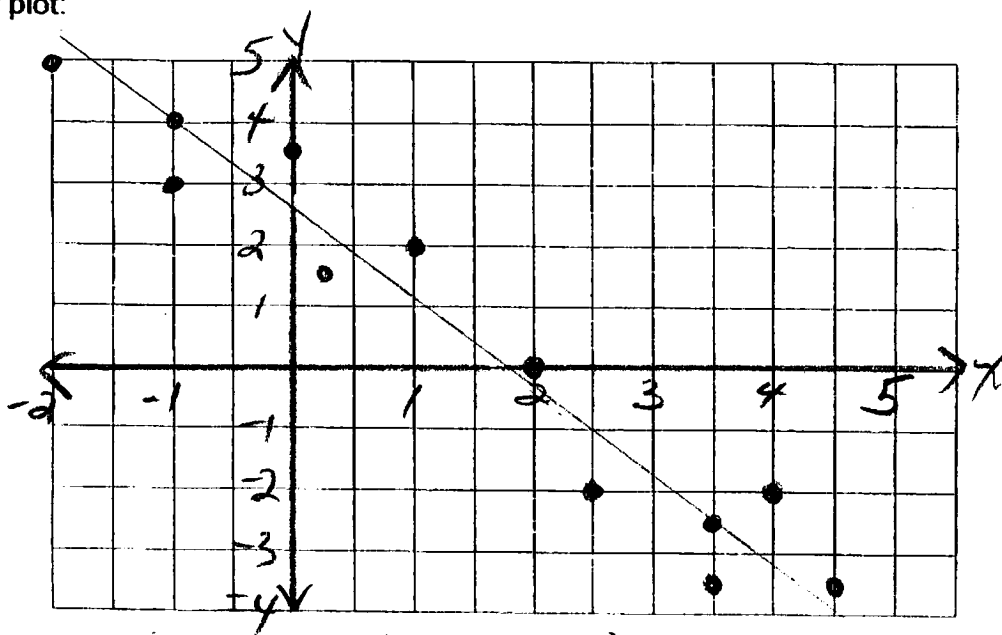
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Problem #: 5

Ordered pairs: $(-2, 5)$, $(-1, 3)$, $(0, 3.5)$, $(0.5, 1.5)$, $(1, 2)$, $(2, 0)$, $(2.5, -2)$, $(3.5, -3.5)$, $(4, -2)$, $(4.5, -3.5)$

Scatter plot:



Points used: $(3.5, -2.5)$, $(-1, 4)$

Slope: $m = \frac{-2.5 - 4}{3.5 - (-1)} = \frac{-6.5}{4.5} = -1.44$

Finding the equation:

$$y = mx + b$$

$$4 = -1.44(-1) + b$$

$$4 = 1.44 + b$$

$$2.56 = b$$

$$\boxed{y = -1.44x + 2.56}$$

$$GC \quad y = -1.34x + 2.42$$